

Instrumentation/ Calibration Technicians

What They Do

Instrumentation/Calibration Technicians work on the specialized equipment necessary to the research and manufacturing processes in biotechnology. They test, calibrate, operate, and repair measuring and recording instruments, apparatus, and equipment. Some of the tools they use include flow meters, gas analyzers, mass balances, microscopes, digital multimeters, and oscilloscopes.

These workers test systems and assist in the validation of new or existing manufacturing plants. They may collect and organize data from manufacturers and users of equipment. They help identify, then purchase and organize the storage of repair parts. They document findings and prepare technical reports with recommendations for solving technical problems. They work with scientists, engineers and other staff.

*Instrumentation and Calibration Technicians in the biotech industry share characteristics of Electrical and Electronic Engineering Technicians and Inspectors, Testers, Sorters, and Weighers. Detailed descriptions of these occupations may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.*

Important skills, knowledge, and abilities include:

- ▶ Design – Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
- ▶ Mathematics – Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- ▶ Equipment Selection – Determining the kind of tools and equipment needed to do a job.
- ▶ Equipment Maintenance – Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
- ▶ Problem Sensitivity – The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- ▶ Deductive Reasoning – The ability to apply general rules to specific problems to produce answers that make sense.

Training/Requirements

- ▶ Associate's degree in biotechnology, electronics, instrumentation or health-related fields.
- ▶ Scientific background and from one to two years of experience in quality control systems.

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Biotechnology Careers

California Job Outlook and Wages

While the Bureau of Labor Statistics does not collect wage and employment figures on Instrumentation and Calibration Technicians, the occupations listed below are found in the biotechnology industry and have similar duties. The California outlook and wage figures are drawn from all industries and represent occupations comparable to Instrumentation and Calibration Technicians.

Standard Occupational Classification	Estimated Number of Workers 2002	Estimated Number of Workers 2012	Average Annual Openings	2005 Wage Range (per hour)
Electrical and Electronic Engineering Technicians				
17-3023	27,700	32,000	1,010	\$19.11 to \$29.38
Inspectors, Testers, Sorters, and Weighers				
51-9061	57,400	62,700	1,840	\$9.14 to \$18.28

These figures do not include self-employment.

Average annual openings include new jobs plus openings due to separations.

Source: www.labormarketinfo.edd.ca.gov, *Employment Projections by Occupation and OES Employment & Wages by Occupation*, Labor Market Information Division, Employment Development Department.

Additional Sources of Information

The American Society for Engineering Education
(202) 331-3500
<http://www.asee.org>

Occupational Information Network (O*NET)
<http://online.onetcenter.org>